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Date: Friday, March 4, 2016
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Malaria preventive practices and clinical burden among HIV patients attending clinic at a tertiary hospital in Nigeria

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Background: It is now three decades into the HIV epidemic which was superimposed on an uncontrolled Malaria burden. These two diseases are of major public health importance and clinical importance in Sub-saharan Africa and in Nigeria in particular. HIV and malaria co-infection is common yet surprisingly few clinical associations have been reported in Nigeria. This study aims to assess Malaria preventive practices and the clinical burden among HIV infected patients.

Methods & Materials: A cross-sectional descriptive study was conducted during the months of January and February 2014 among 356 HIV positive patients attending Nasara clinic of Ahmadu Bello University Teaching Hospital (ABUTH) Zaria. Ethical approval was obtained from the Ethical review committee while written informed consent was obtained from all respondents.A semi-structured, self-administered questionnaire was used to elicit information from the respondents. Data was analysed using SPSS Version 21.

Results: About 99.2% of the respondents were familliar with the term Malaria while 90.2% of the respondents knew that co-infection exists between Malaria and HIV. However only 36.2% of the respondents had good knowledge of Malaria and its co-infection with HIV. Majority 93.3%of them had appropriate practice of Malaria prevention with 96.3% using one or more methods of prevention and 78.7% use a prophylactic antimalarial drugs. More than half (54.2%) of the respondents had at least an episode of malaria in the last six months while 72.8% have had limitations from carrying out their normal activities.

Conclusion: This study emphasized that despite a good knowledge of malaria and its preventive practices among respondents, malaria still remains a common problem faced by HIV patients resulting to a substantial limitation from carrying out normal physical activities. It is suggested that the government should initiate, encourage and sustain focused based campaigns about Malaria and HIV control mechanisms as part of concerted efforts to curtail both infections.

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Elite neutralizers among HIV-1 Subtype-C infected individuals from southern India

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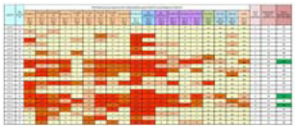
Background: The isolation of broadly neutralizing antibodies has been a high priority since they were identified as potential targets for passive immunotherapy to slow or halt the disease progression in HIV-1 infected individuals. Until recently, only a few recombinant NAbs were available for clinical trials and requirement for the identification of broadly neutralizing sera from HIV-1 infected individual is still high. Although a few human broadly neutralizing antibodies to HIV-1 exist, these antibodies have limited reactivity against non-clade B viruses and so far none of the broadly neutralizing antibodies isolated from Indian donors. Here we attempt to identify cross reactive neutralization response among patients infected with HIV-1 subtype C from southern India.

Methods & Materials: We studied HIV-1 neutralizing antibody (nAb) response in serum among 23 HIV -1 chronically infected individuals with median CD4 Count 581(IQR 339-786) and Plasma viral load 15506 (IQR 6944-51308). These individuals were diagnosed for HIV between 6 and 10 years and naïve for antiretrovirals. Neutralization was measured in a single round infection assay in TZM-bl cells using 19 Tier-II Multi-clade envelope pseudotyped viruses (Subtype A,B C,AE,BE & G) representing from global virus panel. Correlation and Neutralization breadth was analyzed using Spearman's rank test and p value less than 0.05 was considered statistically significant.

Results: Broad and potent neutralization (ability to neutralize 75% of pseudoviruses) was observed in 5 (22%) individuals (Figure:1). Interestingly 3 individuals have shown geometric mean neutralizing titer over 500 and are termed as "elite neutralizers". The overall neutralization breadth was positively correlated with HIV-1 RNA (rho = 0.362, p=0.0089) and negatively correlated with CD4+ T Cell counts (rho = -0.667, P=0.0004).



Conclusion: This study has witnessed elite neutralizers with heterologous 'Tier II viruses' from southern India. It is evident that broadly neutralizing specimens can be identified with larger studies with further extension to define epitope specificities, there by identifying potential antibodies and epitopes for use in therapeutic and vaccine trials.

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